

### Claims

1           1. A single-pass ink jet printing head comprising  
2           an array of ink jet outlets sufficient to cover a  
3           target width of a print substrate at a predetermined  
4           resolution, and

5           orifice plates, each of the orifice plates having  
6           orifices, each of the orifice plates serving some but not  
7           all of the area to be printed,

8           the orifices being arranged in a pattern such that  
9           adjacent parallel lines on the print medium are served by  
10          orifices that have different positions in the array along  
11          the direction of the print lines, that are separated by a  
12          distance that is at least an order of magnitude greater than  
13          the distance between adjacent orifices in a direction  
14          perpendicular to the print line direction.

1           2. The head of claim 1 in which each of the orifice  
2           plates is associated with a print head module that prints a  
3           swath along the substrate, the swath being narrower than the  
4           target width of the substrate.

1           3. The head of claim 1 in which the number of  
2           orifices in each of the orifice plates is within a range of  
3           250 to 4000, preferably between 1000 and 2000, most  
4           preferably about 1500.

1           4. The head of claim 1 in which there are no more  
2           than five swath arrays to cover the entire target width.

1           5. The head of claim 1 in which there are three  
2           swath arrays.